REMARKS/ARGUMENTS

By this Amendment, claims 29, 32, 43 and 44 have been amended.

To expedite prosecution, claims 29 and 32 have been amended to delete element (v) of the claims. Claims 29 has been further amended to recite a step of "isolating the dopaminergic neuron precursor cell." Claim 32 has been further amended to recite a step of "isolating the cell population comprising dopaminergic neuron precursor cells." Support for these amendments can be found, e.g., on page 1, lines 8-10 and page 4, lines 5-8. In addition, the term "dopaminergic neuron precursor cell" in claim 32 has been amended to recite "dopaminergic neuron precursor cells." Finally, an obvious typographical error in claims 43-44 erroneously refers to "SEQ ID NO: 4 or 4," and has been corrected to recite "SEQ ID NO: 3 or 4." No new matter is added by this correction.

Each of the grounds of rejections raised in the Office Action will be addressed below.

Claim rejections—35 USC §112, first paragraph

Claims 29-32 and 34-35 are rejected under 35 USC §112, first paragraph as allegedly lacking enablement and written description. The Examiner acknowledges that the specification is enabling for methods of selecting cells comprising contacting the cells with antibodies that bind to proteins with the sequence of SEQ ID NO: 3 or 4 or variants at least 80% identical to SEQ ID NO: 3 or 4 (Office Action, page 2). The Examiner, however, asserts that the specification does not reasonably provide enablement and support for methods comprising contacting cells with antibodies that bind to proteins encoded by a nucleotide sequence that hybridizes under stringent conditions with the complement of the nucleotide sequence of a nucleotide sequence comprising nucleotides 178 to 2280 of SEQ ID NO: 1 or nucleotides 127 to 2079 of SEQ ID NO: 2 (element v of claims 29 and 32). Although Applicants disagree for reasons of record, in order to expedite prosecution, element (v) of claims 29 and 32 has been deleted. Thus, these rejections have been rendered moot.

Claim objections

Claim 32 is objected to for reciting the term "dopaminergic precursor cell." To overcome this objection, Applicants have amended claim 32 to recite "dopaminergic precursor cells."

Claim rejections—35 USC §112, second paragraph

Claims 43 and 44 are rejected as allegedly indefinite for reciting the term "a signal sequence portion." Specifically, the Examiner asserts that the specification does not specify what constitutes the signal sequence or a signal sequence portion of the protein (Office Action, page 5). Applicants respectfully traverse these rejections with respect to these claims.

The specification clearly defines that the first 17 amino acids of SEQ ID NOs: 3 and 4 correspond to a signal sequence (page 6, lines 30-34; page 37, lines 19-30). Accordingly, Applicants respectfully request withdrawal of the rejection.

Claims 43 and 44 are further rejected for reciting the term "SEQ ID NO: 4 or 4." In response, Applicants have amended claims 43 and 44 to recite "SEQ ID NO: 3 or 4," thus overcome this informality rejection.

Claim rejections—35 USC §102

Claims 29, 31-32, 35 and 41-44 are rejected under 35 U.S.C. §102(b) as being allegedly anticipated by Carulli *et al.* (WO 01/98360). Claims 29, 31-32, 35 and 41-44 are further rejected under 35 U.S.C. §102(a) as being allegedly anticipated by Sun (Genomics 82(2): 130-142, 2003).

As noted in the previous response, Carulli teaches a protein referred to as GP354, that allegedly has 85.6% identity to SEQ ID NO: 3. Carulli also teaches antibodies against GP354. Sun discloses a protein that is 99.7% identical to SEQ ID NO: 3. The Examiner points to nothing in these references showing that either of the two proteins is useful for selecting or isolating dopaminergic neuron precursor cells.

In the previous Office Action, claim 29, which then required a step of "selecting" dopaminergic neuron precursor cells, was not rejected over these references. In the present Office Action, the Examiner now suggests using the term "isolating" to overcome this rejection. Applicants have amended claims 29 and 32 as suggested by the Examiner. Support for these

amendments can be found, e.g., on page 1, lines 8-10 and page 4, lines 5-8. These amendments, however, do not alter the scope of the claims and are made only to expedite prosecution by providing language acceptable to the Examiner.

Neither Carulli nor Sun teaches selecting or isolating cells that have bound to the antibodies disclosed there. As such, Applicants the rejections should be withdrawn.

Claim rejections—35 USC §103

Claims 29-32, 34-35 and 41-44 are rejected under 35 U.S.C. §103 as being allegedly obvious over Carulli in view of Jensen *et al.* (US Patent Application No. 2004/0241170). As noted above, Carulli teaches a protein GP354 that allegedly has 85.6% identity to SEQ ID NO:3 and antibodies against GP354. Jensen discusses the use of flow cytometry to separate cells. Specifically, the Examiner states that claims 29, 31-32, 35, and 41-44 are anticipated by Carulli, and asserts that it would have been obvious to modify the method of Carulli by performing the steps set forth in Jensen, and arrive at the invention of claims 30 and 34. Applicants respectfully disagree.

To construct a *prima facie* case of obviousness, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR*, 82 USPQ2d at 1396 quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). M.P.E.P. 2143.01 IV. Rejections on obviousness cannot be sustained by mere conclusory statements. *Id.*

In the present rejection, the Examiner has not provided sufficient reasoning to show why one of ordinary skill in the art would have selected the GP354 protein of Carulli for use in isolating or selecting dopaminergic neuron precursor cells using the methods of Jensen. According to Carulli, the GP354 protein is "a pancreas-enriched integral membrane protein" (page 3, line 16-18). The Examiner points to no disclosure in this reference that teaches or suggests that GP354 is specific to dopaminergic neuron precursor cells. To support the present rejection, the Examiner must show why a skilled artisan would be motivated to use antibodies against GP354 for isolating dopaminergic neuron precursor cells using the methods of Jensen in light of this teaching. In the absence of such a showing, the Examiner has failed to articulate

sufficient reasoning to support the legal conclusion of obviousness. Accordingly, Applicants respectfully submit that claim rejections under 35 U.S.C. §103(a) should be withdrawn.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at 415-576-0200.

Respectfully submitted,

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Attachments
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